



West Coast
CUSTOMS[®]
BY ORION

WCC-6002
WCC-6004
WCC-5001
WCC-8001

amplifiers

**POWERED BY
HARDCORE ATTITUDE**

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INTRODUCTION

Thank you for your purchase of a West Coast Customs by Orion power amplifier. Each WCC amplifier is designed to be the leader in its class offering the most power, advanced features, and extreme ease of use. In high-end sound systems or high SPL systems, WCC amplifiers will give you years of trouble-free performance.

- **WCC-6002** - 600 Watt two-channel Class AB amplifier with built-in fully variable high-pass, low-pass, or band-pass crossover. The WCC-6002 is capable of one-channel bridged operation with a maximum power of 600 Watts into 2Ω .
- **WCC-6004** - 600 Watt four-channel Class AB amplifier with built-in fully variable high-pass, low-pass, or band-pass crossover. The WCC-6004 is capable of two-channel bridged operation with a maximum power of 600 Watts into 2Ω .
- **WCC-5001** - 500 Watt mono Class AB amplifier with built-in fully variable high-pass, low-pass, or band-pass crossover. The WCC-5001 is capable of one-channel operation with a maximum power of 500 Watts into 2Ω .
- **WCC-8001** - 800 Watt mono Class AB amplifier. The WCC-8001 is capable of one-channel operation with a maximum power of 800 Watts into 2Ω .

The installation of all WCC components will determine the overall performance result. Improper installation will not only limit the performance of your WCC system but also potentially compromise the reliability of this amplifier. To ensure proper sonic results and component reliability, please refer to your authorized dealer for installation assistance or advice. If you decide to perform the installation yourself, be sure to read the entire manual before beginning the installation.

What's in the Box

- (1) Amplifier
- (4) screws and washers
- (1) Amplifier installation and operation manual

PRACTICE SAFE SOUND™

Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss. High power automotive sound systems can generate sound pressure levels in excess of 130dB. When playing your system at high levels, please use hearing protection and avoid long term exposure.

LIMITED TWO-YEAR CONSUMER WARRANTY

The warranty is printed on the rear cover of this manual. This warranty does not cover labor costs for the removal and reinstallation of the unit.

It is important for you to record and retain the following data.

Record Your Serial Number and Date

Model: _____

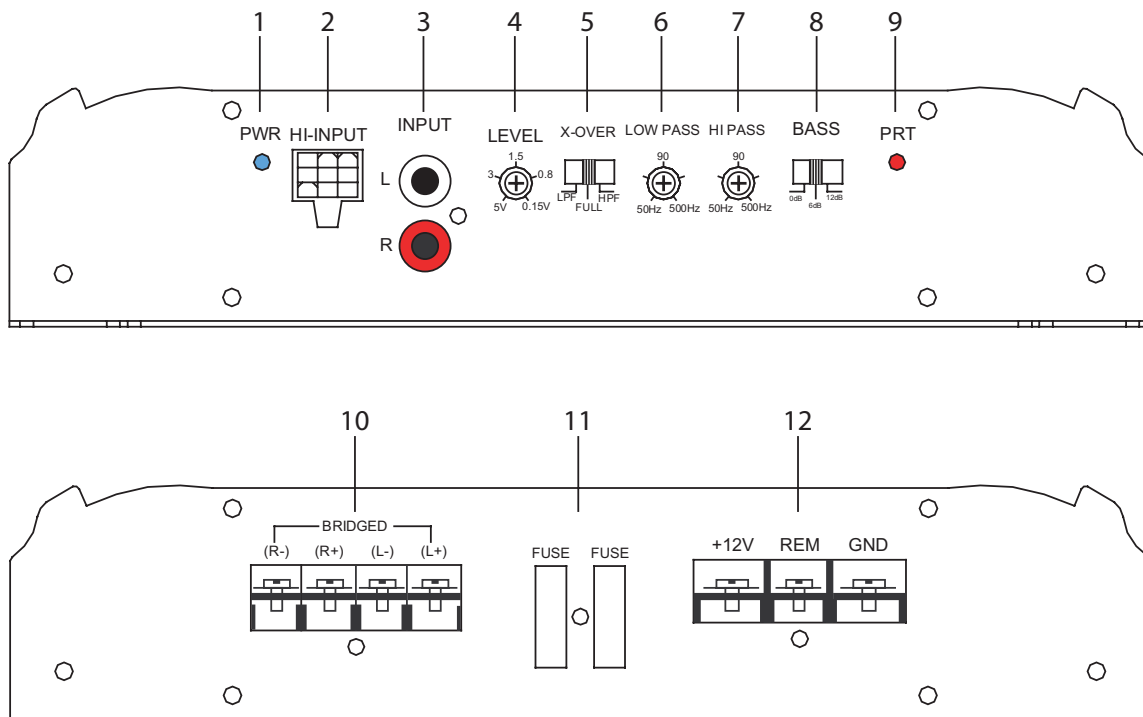
Serial Number: _____

Date of Purchase: _____

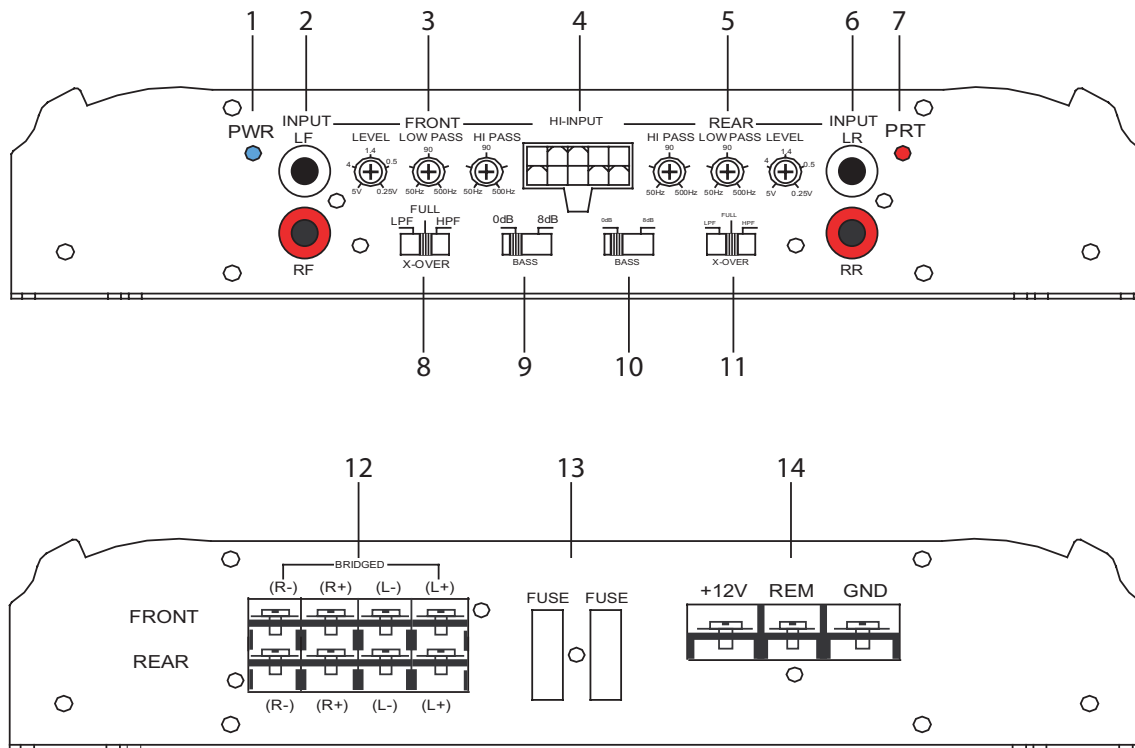
Purchased from: _____

END PANEL LAYOUTS

6002



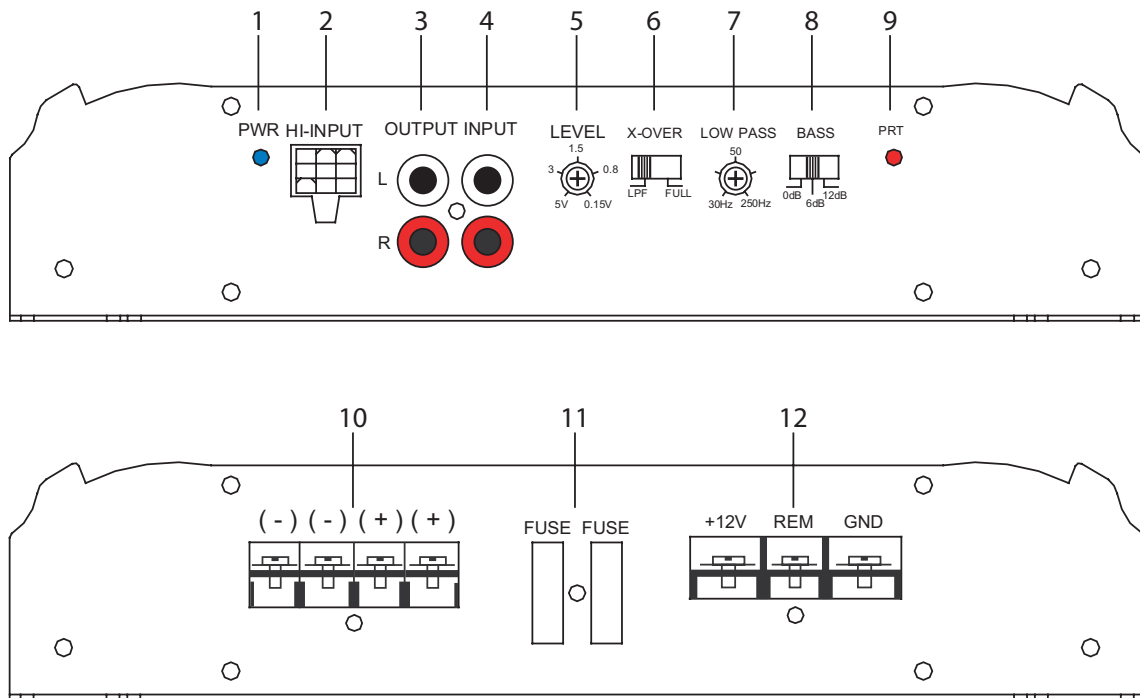
1. **PWR** (LED blue) - when illuminated indicates that the amplifier is on.
2. **HI Input** (high level input) - Accepts 1v to 10v input from the headunit's speaker output. The amplifier will automatically wake-up when the input is greater than 1V.
3. **RCA Inputs** - accepts RCA input from a source unit, preamplifier, or equalizer.
4. **Level Control** - continuously adjusts from 150mV to 5V for full power output.
5. **Crossover Switch** - activates low pass crossover, full (all pass), or high pass crossover.
6. **Low-Pass Frequency Control** - adjusts the frequency (50Hz–500Hz) of the low-pass crossover.
7. **High-Pass Frequency Control** - adjusts the frequency (50Hz–500Hz) of the high-pass crossover.
8. **Bass** - sets the bass boost of the high-pass crossover to 0, 5 or 12dB of boost.
9. **PRT** (LED red) - illuminates when the PRT (Protection) function is active. Activates to protect the amplifier when the temperature is too high, the output has a DC offset, a short was detected on the output, or the amplifier power cables have been improperly connected (reverse power). If the temperature, DC offset, or short condition has cleared after approximately 10-seconds the amplifier will automatically recover.
10. **Speaker Connections** - accepts two speakers or a bridge connection.
11. **2 ATC Fuses** (25 amp) - protects the amplifier from over current situations.
12. **Power Connections** - accepts up to 8 AWG power and ground cables, and also has a REM amplifier turn-on terminal (turns on the amplifier when fed +12 V).



1. **PWR** (LED blue) - when illuminated indicates that the amplifier is on.
2. **RCA Inputs** (front) - accepts RCA input from a source unit, preamplifier, or equalizer.
3. **Level Control** (front) - continuously adjusts from 250mV to 5V for full power output.
Low-Pass Frequency Control (front) - adjusts the frequency (50Hz–500Hz) of the low-pass crossover.
High-Pass Frequency Control (front) - adjusts the frequency (50Hz–500Hz) of the high-pass crossover.
4. **HI Input** (high level input) - Accepts 1v to 10v input from the headunit's speaker output. The amplifier will automatically wake-up when the input is greater than 1V.
5. **Level Control** (rear) - continuously adjusts from 250mV to 5V for full power output.
Low-Pass Frequency Control (rear) - adjusts the frequency (50Hz–500Hz) of the low-pass crossover.
High-Pass Frequency Control (rear) - adjusts the frequency (50Hz–500Hz) of the high-pass crossover.
6. **RCA Inputs** (rear) - accepts RCA input from a source unit, preamplifier, or equalizer.
7. **PRT** (LED red) - illuminates when the PRT (Protection) function is active. Activates to protect the amplifier when the temperature is too high, the output has a DC offset, a short was detected on the output, or the amplifier power cables have been improperly connected (reverse power). If the temperature, DC offset, or short condition has cleared after approximately 10-seconds the amplifier will automatically recover.
8. **Crossover Switch** (front) - activates low pass crossover, full (all pass), or high pass crossover.

9. **Bass** (front) - sets the bass boost of the high-pass crossover to 0, or 8dB of boost.
10. **Bass** (rear) - sets the bass boost of the high-pass crossover to 0, or 8dB of boost.
11. **Crossover Switch** (rear) - activates low pass crossover, full (all pass), or high pass crossover.
12. **Speaker Connections** - accepts two speakers pairs for front and rear or a bridge connection front and rear.
13. **2 ATC Fuses** (25 amp) - protects the amplifier from over current situations.
14. **Power Connections** - accepts up to 8 AWG power and ground cables, and also has a REM amplifier turn-on terminal (turns on the amplifier when fed +12 V).

5001-8001



1. **PWR** (LED blue) - when illuminated indicates that the amplifier is on.
2. **HI Input** (high level input) - Accepts 1v to 10v input from the headunit's speaker output. The amplifier will automatically wake-up when the input is greater than 1V.
3. **RCA Output** - RCA output to another amplifier.
4. **RCA Input** - accepts RCA input from a source unit, preamplifier, or equalizer.
5. **Level Control** - continuously adjusts from 150mV to 5V for full power output.
6. **Crossover Switch** - activates low pass crossover, or full (all pass).
7. **Low-Pass Frequency Control** - adjusts the frequency (30Hz–250Hz) of the high-pass crossover.
8. **Bass** - sets the bass boost of the high-pass crossover to 0, 6 or 12dB of boost.
9. **PRT** (LED red) - illuminates when the PRT (Protection) function is active. Activates to protect the amplifier when the temperature is too high, the output has a DC offset, a short was detected on the output, or the amplifier power cables have been improperly connected (reverse power). If the temperature, DC offset, or short condition has cleared after approximately 10-seconds the amplifier will automatically recover.
10. **Speaker Connections** - accepts two speakers.
11. **2 ATC Fuses** (25 amp) - protects the amplifier from over current situations.
12. **Power Connections** - accepts up to 8 AWG power and ground cables, and also has a REM amplifier turn-on terminal (turns on the amplifier when fed +12 V).

CEA SPECIFICATIONS

WCC-6002



Power Output: 100 Watts RMS x 2 at 4 ohms and $\leq 1\%$ THD+N
Signal to Noise Ratio: -70 dBA (reference 1 Watt into 4 ohms)

Additional Power: 150 Watts RMS x 2 at 2 ohm and $\leq 1\%$ THD+N

WCC-6004



Power Output: 60 Watts RMS x 4 at 4 ohms and $\leq 1\%$ THD+N
Signal to Noise Ratio: -75 dBA (reference 1 Watt into 4 ohms)

Additional Power: 75 Watts RMS x 4 at 2 ohm and $\leq 1\%$ THD+N

WCC-5001



Power Output: 150 Watts RMS x 1 at 4 ohms and $\leq 1\%$ THD+N
Signal to Noise Ratio: -75 dBA (reference 1 Watt into 4 ohms)

Additional Power: 250 Watts RMS x 1 at 2 ohm and $\leq 1\%$ THD+N

WCC-8001



Power Output: 300 Watts RMS x 1 at 4 ohms and $\leq 1\%$ THD+N
Signal to Noise Ratio: -75 dBA (reference 1 Watt into 4 ohms)

Additional Power: 400 Watts RMS x 1 at 2 ohm and $\leq 1\%$ THD+N

SPECIFICATIONS

Amplifier Section	WCC-6002	WCC-6004
Power Output 4 Ω (Watts) ₁	75 x 2	60 x 4
Power Output 2 Ω (Watts) ₂	150 x 2	75 x 4
Power Output 4 Ω Bridged (Watts)	300 x 1	150 x 2
Externally Bridgeable	yes	yes
Distortion at Rated Power	< 1.0% THD+N	< 1.0% THD+N
Frequency Response	20Hz to 20KHz +0, -3dB	20Hz to 20KHz +0, -3dB
Linear Bandwidth	10Hz to 500Hz \pm 3dB	10Hz to 500Hz \pm 3dB
Damping Factor	> 150	> 75
Input Sensitivity	150mV to 5V rms	250mV to 5V rms
Input Impedance	20k Ω	20k Ω
Fuse Type	(2) 25 Amp ATC	(2) 25 Amp ATC
Dimensions	11"x10.5"x2.25"	13.25"x10.5"x2.25"
Weight	6.40 lbs.	7.50 lbs.
Crossover Section		
Low Pass Crossover	Continuously variable (12dB per octave)	Continuously variable (12dB per octave)
Low Pass Frequency Range	50Hz to 500Hz	50Hz to 500Hz
High Pass Filter	Continuously variable (12dB per octave)	Continuously variable (12dB per octave)
High Pass Frequency	50Hz to 500Hz	50Hz to 500Hz
Bass Boost	0, 6, 12dB boost	0, 8dB boost

1. Continuous 4 Ω load at 14.4V, < 1% THD+N, 80kHz BW.
2. Continuous 2 Ω load at 14.4V, < 1% THD+N, 80kHz BW.

Amplifier Section	WCC-5001	WCC-8001
Power Output 4 Ω (Watts) ₁	150 x 1	300 x 1
Power Output 2 Ω (Watts) ₂	250 x 1	400 x 1
Distortion at Rated Power	< 1.0% THD+N	< 1.0% THD+N
Frequency Response	20Hz to 250Hz +0, -3dB	20Hz to 250Hz +0, -3dB
Linear Bandwidth	10Hz to 500Hz \pm 3dB	10Hz to 500Hz \pm 3dB
Damping Factor	> 50	> 50
Input Sensitivity	150mV to 5V rms	150mV to 5V rms
Input Impedance	20k Ω	20k Ω
Fuse Type	(2) 15 Amp ATC	(2) 30 Amp ATC
Dimensions	11"x10.5"x2.25"	13.25"x10.5"x2.25"
Weight	7.00 lbs.	7.50 lbs.
Crossover Section		
Low Pass Crossover	Continuously variable (12dB per octave)	Continuously variable (12dB per octave)
Low Pass Frequency Range	30Hz to 250Hz	30Hz to 250Hz
Bass Boost	0, 6, 12dB boost	0, 6, 12dB boost

1. Continuous 4 Ω load at 14.4V, < 1% THD+N, 80kHz BW.
2. Continuous 2 Ω load at 14.4V, < 1% THD+N, 80kHz BW.

AMPLIFIER SETTINGS

Input Level

These amplifiers have level adjustments to allow for easy integration with any source unit. The input sensitivity can be adjusted from approximately 200mV to 5V. Refer to *Testing the System* and *Adjusting the Sound of the System* sections of this guide for detailed instructions on setting the gain.

Internal Crossover Configurations

The crossover section of these amplifiers is continuously variable and extremely flexible. This circuit is designed to optimize the performance of WCC subwoofers in all types of enclosures.

When using WCC loudspeakers, minor deviations from the recommended frequency ranges can provide superior results depending on your speaker locations and your vehicle acoustics. Setting crossover frequencies higher than recommended will not cause damage and may provide superior sonic results depending on your system's performance goals. Refer to your loudspeaker owner's manual for assistance in choosing the proper crossover frequencies for your system.

WARNING! DO NOT set crossover frequencies lower than the speakers recommended operating range. This can cause driver failure that is not covered by the manufacturer's warranty.

Low-Pass Crossover

When the switch is to the middle (OFF position), the low-pass crossover is bypassed. When the switch is in the left (LPF position), the low-pass crossover is active with a 2nd order (12dB per octave) slope. The low-pass crossover is continuously variable from 50Hz to 300Hz.

High-Pass Crossover

NOTE: Not applicable to the 5001 and 8001 models.

When the switch is to the middle (OFF position), the high-pass crossover is bypassed. When the switch is to the right (HPF position), the high-pass crossover is active with a 2nd order (12dB per octave) slope. The high-pass crossover is continuously variable from 50Hz to 500Hz. Additionally, boost can be added at the high-pass crossover frequency for improved bass output while still protecting the woofer from excessive excursion.

WARNING! Maximum boost can potentially cause woofer damage due to over-excursion.

Fine Tuning the Crossovers

The low-pass and high-pass crossover sections are each marked at four frequency points for ease of system adjustment. The low-pass crossover section is marked at 50Hz, 100Hz, 300Hz, 400Hz, and 500Hz. The high-pass crossover section is marked at 20Hz, 33Hz, 90Hz and 150Hz. Specific crossover points can be chosen based on the recommended operational bandwidth of your speakers.

AMPLIFIER WIRING

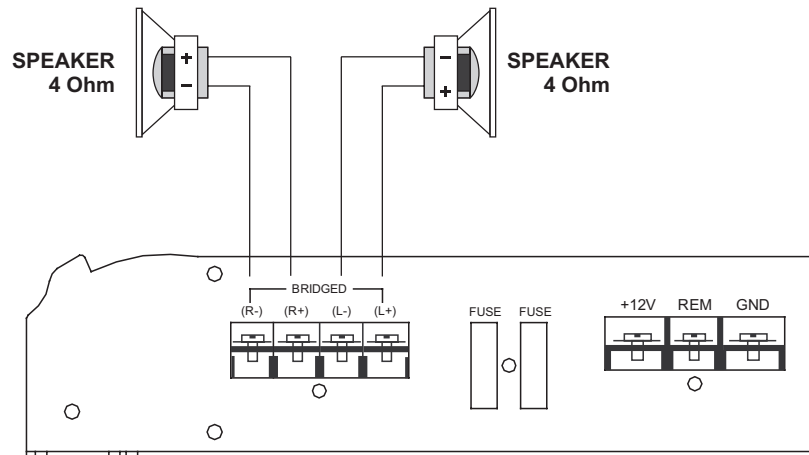
Power Connections for the WCC-amplifiers

- WCC- Fuse Size: refer to specifications
- Power connections accept up to 8 AWG wire.
- 8 AWG power and ground wire recommended for optimal performance.
- Connect 12V+ to the battery through fuse holder. This connection provides +12V main power to the amplifier.
- Power wire must be fused no more than 18" from battery.
- Ground amplifier to a good chassis ground as close as possible to the amplifier.
- Connect REM terminal to remote turn-on lead from source unit. This connection provides +12V power to turn-on the amplifier.
- Add extra ground wire between the negative terminal of the battery and the chassis.

NOTE: The addition of a ground wire from the battery to the chassis of the vehicle improves the ability of the battery to supply power to the amplifier. This is recommended because the current delivery of the factory electrical system was designed only to accommodate electronics supplied by the auto manufacturer.

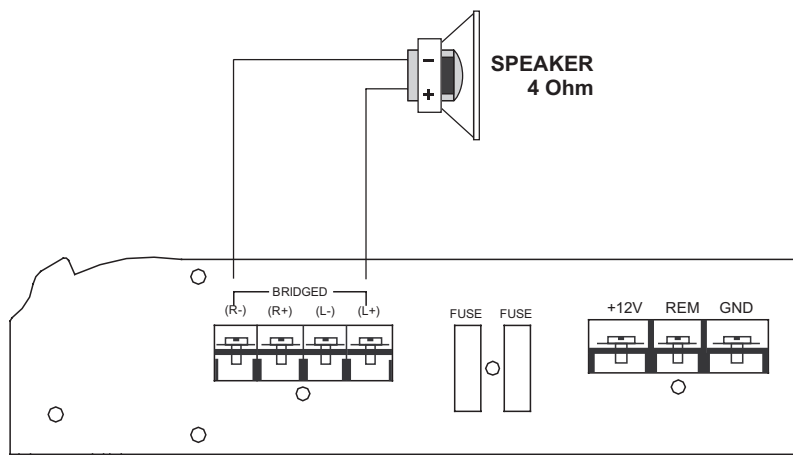
SPEAKER CONNECTIONS

6002 Two Channel Speaker Connections

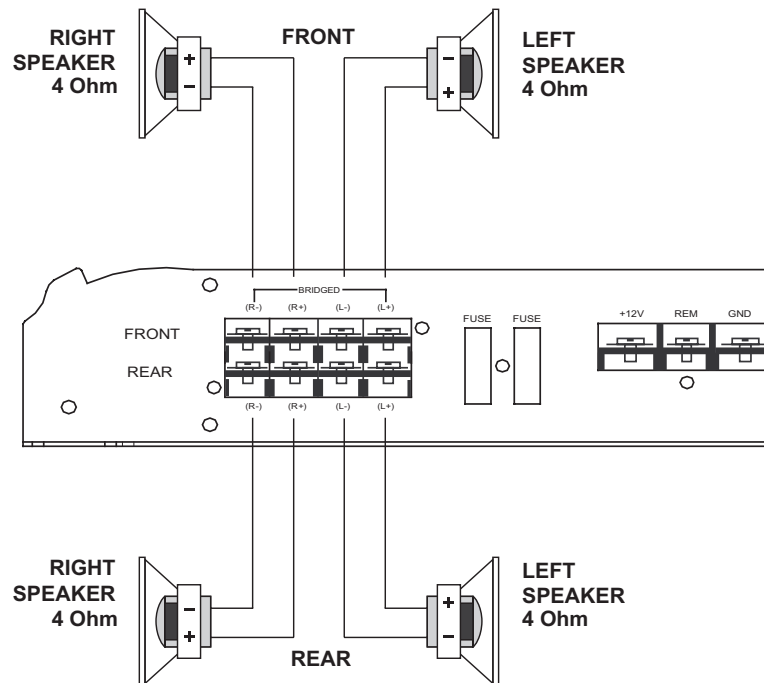


6002 Two Channel Bridged Speaker Connection

For bridging into a single speaker load, the WCC-6002 has the ability to be bridged. As shown in the diagram below:

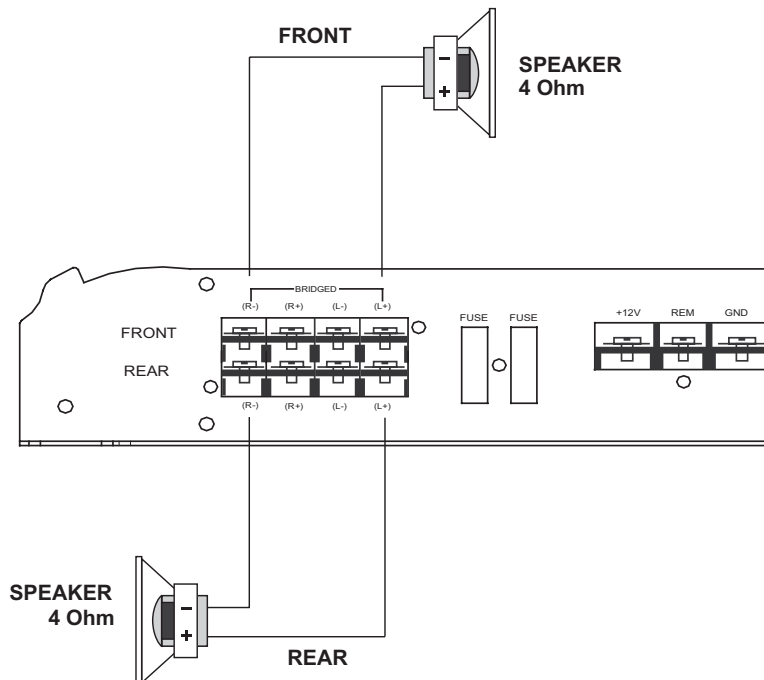


6004 Four Channel Speaker Connections



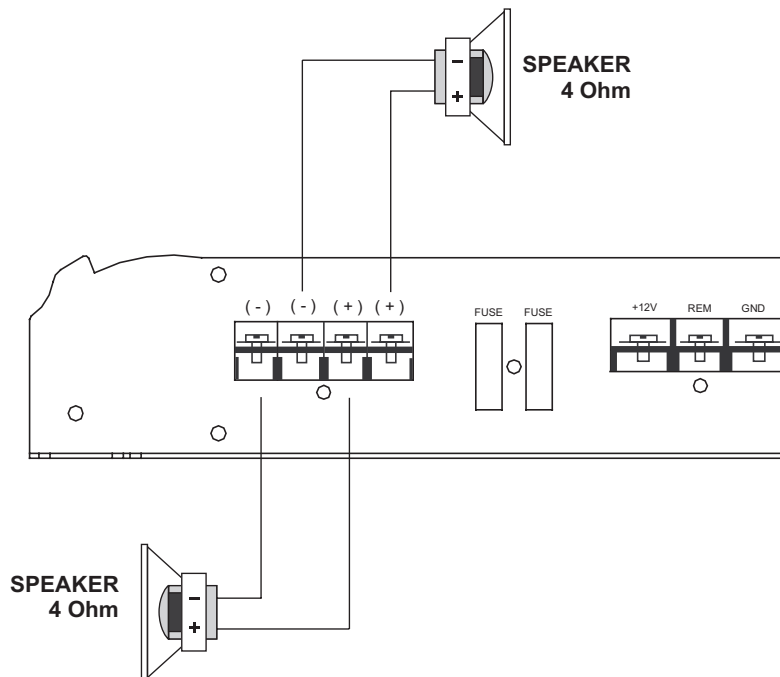
6004 Four Channel Bridged Speaker Connection

For bridging front and rear into single speaker loads, the WCC-6004 has the ability to be bridged. As shown in the diagram below:



5001, 8001 Mono Speaker Connections

The WCC-5001, and WCC-8001 amplifiers offer two positive and two negative output terminals for ease of connecting the speakers to the amplifier. Since these are mono amplifiers, the speaker connectors are paralleled internally. Each amplifier is stable to 2Ω .



NOTE! The WCC-5001 and WCC-8001 are not designed to work in a bridged or strapped configuration. Attempting to apply these configurations will damage the amplifier and will not be covered under warranty.

HIGH LEVEL HARNESSSES

NOTE! Do not connect the high level input connections to power, signal, or chassis ground as damage to the head-unit outputs may result. The high-level inputs are designed to work with either grounded or BTL speaker level outputs (found on most head units).

NOTE! Also, to preclude the use of the High Level Harness, a speaker level to RCA adapter is available (Directed p/n 55020) to convert any regular or high-powered speaker output to a preamp level, high impedance signal to drive the amplifier.

6002, 5001, 8001 High Level Connections

Wire Color	Input Connection
WHITE/BLACK	- Left channel
BLACK	Ground
WHITE	+ Left channel
GRAY/BLACK	- Right channel
GRAY	+ Right channel

6004 High Level Connections

Wire Color	Input Connection
WHITE	+ Left Front channel
WHITE/BLACK	- Left Front channel
BLACK	Ground
GREEN/BLACK	- Right Rear channel
GREEN	+ Right Rear channel
GRAY	+ Right Front channel
GRAY/BLACK	- Right Front channel
VIOLET/BLACK	- Left Rear channel
VIOLET	+ Left Rear channel

AMPLIFIER INSTALLATION

Choosing Mounting Locations

The location of your amplifier will depend on several important issues. Due to the low profile size of the WCC amplifiers, there are many possible installation locations that will yield satisfactory amplifier performance. Always mount the amplifier in a place that protects the amplifier from the elements. In addition, mount the amplifier on a stable, flat surface.

NOTE!: Mounting amplifiers upside down is not recommended and may cause premature thermal shutdown.

NOTE! Do not mount any amplifier in the engine compartment. Amplifiers are not designed to endure the harsh environment of the exterior elements.

Passenger Compartment

If you are going to mount the amplifier in the passenger compartment, make sure you have adequate room for ventilation. The amplifiers have been designed to make under-seat mounting possible. When mounting your amplifier under a seat or similar area, keep a minimum of 1" of clearance around the amplifier for adequate cooling.

Trunk Compartment

Mounting your amplifier in the trunk provides excellent performance as long as you do not restrict the airflow around the heatsink of the amplifier. For optimal results, mount the amplifier with as much clearance as possible. This type of mounting will yield the best cooling due to the convection effect of the amplifier chassis.

General Precautions and Installation Tips

NOTE! Be careful not to cut or drill into gas tanks, fuel lines, brake lines, hydraulic lines, vacuum lines, or electrical wiring when working on your vehicle.

Disconnect the vehicle's ground wire at the battery before making or breaking connections to the audio system's power supply terminals.

Do not use this amplifier unmounted. Failing to securely mount the amplifier can result in damage or injury, particularly in the event of an accident. An unmounted amplifier becomes

a dangerous projectile in the event of a crash. Never mount the amplifier where it might get wet. Mount the amplifier so the wire connections will not be pulled. Route the wires where they will not be scraped, pinched or damaged in any fashion.

The +12V power supply wire must be fused as close as possible to the battery terminal, ideally within 18". Use the recommended fuse size or circuit breaker listed in the *Power Connections* section of this manual.

If you need to replace the fuse plugged into the side of the amplifier, replace the fuse with the same size ATC type fuse that came with the amplifier. If you are not sure as to the correct value, refer to the *Power Connections* section of this manual for details. Using a higher current fuse may result in damage to the amplifier that is not covered under warranty.

NOTE! Make sure all the equipment in the system is turned off when making or breaking connections to the input RCAs or speaker terminals. Turn on the system and slowly turn up the volume control only after double checking all wire connections.

Power for systems with a single amplifier can be supplied by most automotive electrical systems. Systems with multiple amplifiers may require a higher capacity battery, alternator or the use of a storage capacitor. We strongly recommend the use of a Directed Audio Essentials power capacitor with an extra battery in larger stereo systems.

WCC amplifiers generate a certain amount of heat as part of normal operation. Be sure the area around the amplifier is unobstructed to allow adequate air circulation. Remember, beach blankets, last week's laundry, school books and homework papers located on top of the amplifier do not improve air flow and may become damaged.

Tools of the Trade

Listed below are the majority of the tools required to perform an installation. Having the proper tools will make the installation that much easier. Some of these tools are necessities; some will just make the job easier.

- Allen Wrenches (2.5mm and 3mm)
- DMM or VOM
- Electric drill with assorted drill bits
- Grommets
- Heat shrink tubing
- Marking pen
- Nylon tie straps
- Phillips and flat blade screw drivers
- Pliers (standard and needle nose)
- Reference CD with 1 kHz Sine Wave at 0dB level (all bits high)
- RTA (real time analyzer)
- Soldering iron and solder
- Utility knife
- Wire brush or sandpaper for chassis grounding
- Wire crimper
- Wire cutters
- Wire strippers

Step By Step Installation

- Step 1 Determine the location for the amplifier. Refer to the *Choosing Mounting Locations* section of this guide for detailed information.
- Step 2 Decide on the system configuration for your amplifier. For system suggestions, refer to the *Speaker Connections* section of this guide.
- Step 3 Run all the wires from the amplifier location to the speakers, source unit, and battery. Do not connect the battery at this time. Be sure to run RCAs and power and speaker wires away from factory electrical wires and system as they pose a great potential for induced system noise.
- Step 4 Pre-drill amplifier mounting holes. Be sure to "think before you drill". Gas tanks, fuel lines, and other obstructions have a nasty way of hiding themselves. For best results use a marking pen to mark the mounting holes and pre-drill these holes with a standard 1/8" drill bit.
- Step 5 Mount the amplifier. Make sure the amplifier is mounted on a flat surface. If this is not possible, do not over tighten the screws so that the chassis of the amplifier is twisted or bent.
- Step 6 Turn the vehicle's key switch to the off position.
- Step 7 Disconnect the vehicle's battery ground terminal.
- Step 8 Connect power wires to the amplifier (ground first, then 12 V(+) and REM).
- Step 9 Connect the RCA and speaker wires to the amplifier. Check the quality of your speakers and signal connections. This will determine the ultimate performance of your WCC amplifier. Refer to the *Signal Input and Output Level Controls* and *Speaker Connections* sections of this guide for correct wiring instructions.
- Step 10 Reconnect the ground terminal to the battery after power, speaker, and RCA connections are completed.
- Step 11 Set crossovers. Refer to the *Internal Crossover Configuration* section of this manual for detailed instructions.
- Step 12 Once satisfied that all connections and settings are correct, install the fuse located near the vehicle's battery and proceed to the *Testing the System* section of this manual.

NOTE! Never exceed the recommended fuse size of this amplifier. Failure to do so will result in the voiding of your warranty and possible damage to the amplifier.

SET UP AND TROUBLESHOOTING

Testing the System

After you have completed the installation, you need to test the system. This will help ensure years of trouble-free operation. Please refer to the listed steps below when testing the sound of your WCC system.

- Step 1 Check all the wiring connections to be sure they are correct and secure.
- Step 2 Turn the signal source volume control all the way down. Set any tone controls to their flat or defeated positions. This includes the loudness control.
- Step 3 Turn the level controls of the amplifier to their minimum positions.
- Step 4 Turn the source unit on. Check to see if the power LED located on the connection side of the amplifier is on. If not, please refer to the *Power Connections* and the *Troubleshooting Tips* sections of this manual for instructions.

- Step 5 If using an aftermarket source unit, turn the level controls of the amplifier about one quarter of a turn. Slowly increase the volume level of the source unit to so that you can hear the output of the system. If no sound is heard or if the output is distorted, turn the system off immediately. Refer to the *Power Connections* and the *Troubleshooting Tips* sections of this manual to solve your installation problems.
- Step 6 Check to make sure the output for each channel is correct. If the active crossovers are used, check to make sure that each output is correct from the amplifier. When using active crossovers on midrange and tweeters, do not use crossover frequencies lower than recommended. If the system is not configured properly, refer to the *Internal Crossover Configuration* section of this manual and take corrective action.
- Step 7 If the output is clear and undistorted, continue to the *Adjusting the Sound of the System* section of this manual.

Adjusting the Sound of the System

Once you have checked the system's operation, adjust the sound of the system. Adjusting the sound of the system is accomplished by setting the level controls and adjusting the internal crossovers.

- Step 1 Turn the signal source volume control all the way down. Set any tone controls to their flat or defeated positions. This includes the loudness control.
- Step 2 Turn the level controls of the amplifier to their minimum positions.
- Step 3 Choose music with high dynamic content that you like, with which you are familiar, and will be used most often in the system.
- Step 4 Turn the source unit's volume control up to its highest undistorted output level. If you lack test equipment, this point occurs between 3/4 to full volume depending on the quality of your source unit. Listen for any audible distortion. If any distortion is audible, reduce the volume of the source unit until you have an undistorted output. Leave the volume control at this position during your system tuning.
- Step 5 While listening to your chosen dynamic music, turn up the level control corresponding to the midrange output until you hear slight distortion and turn the level control back slightly for an undistorted output. Depending on your system, the midrange and tweeter output may be on the same output channels.
- Step 6 Turn up the level control corresponding to the tweeter output until you hear slight distortion and turn back the level control slightly for an undistorted output. Depending on your system the midrange and tweeter output may be on the same output channels.
- Step 7 Fine-tune the output level between midrange and tweeters. Refer to the *Internal Crossover Configuration* section of this manual for detailed instructions.
- Step 8 Repeat Steps 5-7 for the rear speakers. If you do not have rear speakers continue to Step 10.
- Step 9 Set levels between the front and rear midrange and tweeters for optimum front/rear balance.
- Step 10 Turn up the level control corresponding to the woofer output until you hear slight distortion and turn back the level control slightly for an undistorted output.
- Step 11 Fine-tune the output level between satellite speakers and the woofers. Refer to the *Internal Crossover Configuration* section of this manual for detailed instructions.
- Step 12 Enjoy your awesome West Coast Customs by Orion sound system.

Troubleshooting Tips

Symptom	Probable Cause	Action To Take
No output		
	Low or no remote turn-on	Check remote turn-on voltage at voltage amplifier and repair as needed.
	Fuse blown	Check power wire's integrity and check for speaker shorts. Fix as needed and replace fuse.
	Power wires not connected	Check power wire and ground connections and repair or replace as needed.
	Audio input not connected	Check RCA connections and repair or replace as needed.
	Speaker wires not connected	Check speaker wires and repair or replace as needed.
	Speakers are blown	Check system with known working speaker and repair or replace speakers as needed.
Audio cycles on and off		
	Thermal protection engages when amplifier heat sink temperature exceeds 80°C (176°F)	Make sure there is proper ventilation for amplifier and improve ventilation as needed.
	Loose or poor audio input	Check RCA connections and repair or replace as needed.
	Loose power connections	Check power wire and ground connections and repair or replace as needed.
Distorted output		
	Amplifier level sensitivity set too high exceeding maximum capability of amplifier	Readjust gain. Refer to the <i>Adjusting the Sound of the System</i> section of this manual for detailed instructions.
	Impedance load to amplifier too low	Check speaker impedance load, if below 2Ω, rewire the speakers to achieve higher impedance.
	Shorted speaker wires	Check speaker wire connections and fix or replace as needed.
	Speaker not connected to amplifier properly	Check speaker wiring and repair or replace as needed. Refer to the <i>Speaker Connections</i> section of this guide for detailed instructions.

Symptom	Probable Cause	Action To Take
Distorted output		
	Internal crossover not set properly for speakers	Readjust crossovers. Refer to the <i>Internal Crossover Configuration</i> section of this guide for detailed instructions.
	Speakers are blown	Check system with known working speakers and fix or replace as needed.
Poor bass response		
	Speakers wired with wrong polarity causing cancellation at low frequencies	Check speaker polarity and fix as needed.
	Crossover set incorrectly	Reset crossovers. Refer to the <i>Internal Crossover Configuration</i> section of this guide for detailed instructions.
	Impedance load at amplifier is too low	Check speaker impedance load, if below 2Ω , rewire speakers to achieve higher impedance.
Battery fuse blowing		
	Short in power wire or incorrect wiring	Check power and ground connections and replace or repair as needed.
	Fuse used is smaller than recommended	Replace with proper fuse size.
	Actual current exceeds fuse rating	Check speaker impedance load. If below 2Ω , rewire speakers to achieve higher impedance.
Amplifier fuse blowing		
	Fuse used is smaller than recommended	Replace with proper fuse size.
	Impedance load at amplifier too low	Check speaker impedance load. If below 2Ω , rewire speakers to achieve higher impedance.
	Speaker is blown with shorted outputs	Check system with known working speakers and fix or replace as needed.
	Actual current exceeds fuse rating	Check speaker impedance load. If below 2Ω , rewire speakers to achieve higher impedance.

[illegible]

Warranty

LIMITED TWO YEAR CONSUMER WARRANTY:

Directed Electronics promises to the original purchaser, to replace this product should it prove to be defective in workmanship or material under normal use, for a period of two years from the date of purchase from the dealer as indicated by the date code marking of the product **PROVIDED** the product was installed by an authorized Directed dealer. During this two-year period, there will be no charge for this replacement **PROVIDED** the unit is returned to Directed, shipping pre-paid. If the unit is installed by anyone other than an authorized Directed dealer, the warranty period will be one year from the date of purchase by the dealer as indicated by the date code marking of the product. This warranty is non-transferable and does not apply to any unit that has been modified or used in a manner contrary to its intended purpose, and does not cover damage to the unit caused by installation or removal of the unit. During this one-year period, there will be no charge for this replacement **PROVIDED** the unit is returned to Directed, shipping pre-paid. This warranty is void if the product has been damaged by accident or unreasonable use, neglect, improper service or other causes not arising out of defects in materials or construction. Units which are found to be damaged by abuse resulting in thermally damaged voice coils are not covered by this warranty but may be replaced at the absolute/sole discretion of Directed. **ALL WARRANTIES INCLUDING BUT NOT LIMITED TO EXPRESS WARRANTY, IMPLIED WARRANTY, WARRANTY OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, AND WARRANTY OF NON-INFRINGEMENT OF INTELLECTUAL PROPERTY ARE EXPRESSLY EXCLUDED TO THE MAXIMUM EXTENT ALLOWED BY LAW, AND DIRECTED NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT ANY LIABILITY IN CONNECTION WITH THE SALE OF THE PRODUCT. DIRECTED HAS ABSOLUTELY NO LIABILITY FOR ANY AND ALL ACTS OF THIRD PARTIES INCLUDING ITS AUTHORIZED DEALERS OR INSTALLERS.** Unit must be returned to Directed, postage pre-paid, with bill of sale or other dated proof of purchase bearing the following information: consumer's name, telephone number, and address, authorized dealer's name and address, and product description. Note: This warranty does not cover labor costs for the removal and reinstallation of the unit. **IN ORDER FOR THIS WARRANTY TO BE VALID, YOUR UNIT MUST BE SHIPPED WITH PROOF OF INSTALLATION BY AN AUTHORIZED DIRECTED DEALER. ALL UNITS RECEIVED BY DIRECTED FOR WARRANTY REPAIR WITHOUT PROOF OF DIRECTED DEALER INSTALLATION WILL BE COVERED BY THE LIMITED 1 YEAR PARTS AND LABOR WARRANTY.** Note: This warranty does not cover labor costs for the removal and reinstallation of the unit. **BY PURCHASING THIS PRODUCT, THE CONSUMER AGREES AND CONSENTS THAT ALL DISPUTES BETWEEN THE CONSUMER AND DIRECTED SHALL BE RESOLVED IN ACCORDANCE WITH CALIFORNIA LAWS IN SAN DIEGO COUNTY, CALIFORNIA.**



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